Shelter Island Windmill
Town of Shelter Island
Suffolk County
New York

HAER No. NY-145

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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HISTORIC AMERICAN ENGINEERING RECORD

Shelter Island Windmill

NY-145

Location:	Town of Shelter Island, Suffolk County, New York
Date of Construction:	1810
Present Owner:	Mr. Andrew Fiske North Ferry Road Shelter Island, New York
Significance:	The Shelter Island Windmill is one of eleven surviving 18th and early-19th century wind-powered gristmills on Long Island. This is one of four extant windmills built by Nathaniel Dominy V, a prominent East Hampton craftsman.
Historian:	Robert Hefner
Transmitted by:	Kevin Murphy, Historian HAER, April 1984

I. History of the Windmill

This windmill was built in Southold in 1810 and moved to Shelter Island in 1840. It is the only windmill built on Long Island's north fork to survive, but little is known of its history there.

The mill was built in 1810 for a company whose partners were Nathaniel Overton, Benjamin Horton, Moses Cleveland, Joseph Halliock and Barnabas Case.[1] Nathaniel Dominy was the millwright. Dominy's activity on the north fork shows the extent to which his millwrighting skills were recognized. Dominy also built a sawmill in Southold in 1811[2] and possibly built the Orient Windmill.

It is certain that Dominy had the assistance of local carpenters in building the mill. Dominy's bill to the owners of the mill charges them for 66 days of his own time and 120 days for the time of his apprentices: Asa Miller, Merry Parsons and Lewis Parsons.[3] This makes a total of 186 days labor; when Dominy built the Hook Mill in 1806, he and his crew worked a total of 557 man-days. It is logical that in Southold, where Dominy and his apprentices would have to board, local craftsmen would do as much of the work as possible.

In April 1810 Nathaniel Dominy wrote to Moses Cleveland, the partner in charge of building the new mill, answering some questions about the planned construction of the mill.[4] (See Appendix I) The specifications which Dominy provided for some of the machinery and structural components of the mill, suggest that Cleveland may have had some of the work carried out.

Moses Cleveland himself was a carpenter; the accounts of the mill company for 1821-1823 indicate that Cleveland performed routine maintenance and repairs on the mill. [5]

The only knowledge of the windmill's operation in Southold comes from an account book for the mill company entitled "New Mill Book for 1812". [6] This book is primarily the accounts of the mill's five owners, but also records charges to individual customers. Most charges are for from ½ to 3 bushels of wheat, buckwheat, corn, rye, meslin or provender. The accounts indicate that the mill operated throughout the year.

The windmill was purchased in 1840 by Joseph Congdon and moved to Shelter Island where it stood at the center of the village, near the library and high school. [7] One account of the history of the mill states that the mill was moved to Shelter Island to replace another which had burned down. [8] This would be a likely case, as in 1840 there would have been no need for a new mill on Shelter Island.

Congdon, who was a miller, [9] operated the windmill until about 1855 when it was sold to Smith Baldwin. [10] The mill ceased to operate sometime before 1879 when Lillian Horsford purchased it to preserve it as an antique. [11] It is not surprising that the mill ceased operation at this time. The 1860 Census of Industry shows that the mill did little business, at least compared to the windmills of East Hampton. In 1860 the Shelter Island windmill ground 900 bushels of grain, while the Hook Windmill and the Gardiner Windmill in East Hampton ground 5000 bushels each. [12]

The mill was put back in operation during 1917-1918 to provide meal and flour for the inhabitants of the Island during the food conservation period of the First World War. [13] In 1926 Miss Cornelia Horsford moved the mill to the grounds of Sylvester Manor, on Shelter Island, where it remains today. [14]

II. Structure and Machinery

Two documents which pertain to the construction of the Shelter Island Windmill indicate the amount of planning which preceeded the building of the mill and the exact specifications which the millwright worked with. One document is the letter Nathaniel Dominy V wrote to Moses Cleveland in April 1810 (See Appendix I) and the other is a list of mill components entitled "Mill Papers" (See Appendix II).

The purpose of Dominy's letter to Cleveland is not clear. If we did not know that Dominy was the millwright, we would assume that Cleveland was building the mill and had asked Dominy to provide the specifications for certain components. We know that Dominy worked on the mill for only 66 days and could not have been present throughout the project. It is likely that Cleveland did have some of this work done, to Dominy's specifications, before Dominy arrived in Southold to oversee the work himself.

The first item of the letter is Dominy's affirmative response to Cleveland's inquiry whether his "timber" would be sufficient to have two run of stones in the mill. Presumably Cleveland had originally planned a mill with only one run of stones. Dominy then notes that " the top had better be enlarged as much as the bottom or the arms will come too near." This may be a change required in altering plans for a mill with one run of stones to a mill with two run of stones. But further specifications given in the letter do not refer to changes that would be necessary to change a mill from one to two run of stones.

In another item Dominy presents Cleveland with the choice to "frame girders across for your bridge beams to lie upon" or to "have the bridge beams lie on those girths which support the upper floor." Cleveland chose the former method. The Shelter Island Mill and the Hook Mill, Dominy's latest mills, are the only Long Island windmills which have separate girders to support the quant sprattle beams. This method allowed greater head room at the second level and allowed a crown wheel and layshaft to be positioned under the ceiling of the second floor. In the Hook Mill this also allowed room for a screener to be installed under the second floor ceiling.

Most of the specifications given in this letter were followed, probably by Nathaniel Dominy himself. The specifications given in the letter for the stone beams, center post, brake wheel, spur wheel and wallower are identical to or close to the dimensions of those components in the Shelter Island Windmill.

The papers concerning the Shelter Island Windmill (the letter from Dominy to Cleveland, the "New Mill Book for 1812", the bill and receipt for Dominy's work and Moses Cleveland's mill account) are found in two packets in the East Hampton Free Library labeled L 628 and L 629. Also found in one of these packets is a sheet which lists dimensions for mill components on one side and on the reverse side is labeled "Mill Papers". (See Appendix II) There is no other identification. It is presumed that this document was part of the planning process for the Shelter Island Windmill and would have been written by Nathaniel Dominy or Moses Cleveland. By comparing the handwriting of these men with that of the document, it cannot be positively attributed to either.

What is provided on this sheet is a fairly complete list of the structural components and machinery of a windmill and their specifications. All the structural members of the tower of the mill are listed except the braces, studs, floor joists and the center post. All structural members of the cap are listed except the rafters. The specifications for the windshaft, stocks, brake wheel and internal capstan winder are given, but none for the spur wheel, wallower or stone nuts.

The specifications given in the list for the height of the first and third stories and the dimensions of the first and second story "interties" are exactly those of the Shelter Island Windmill. The list calls for 96 coggs for the cap rack, which is the number found in the Shelter Island Mill. Other dimensions given in the list are reasonably close to those for the same components found in this windmill. The greatest difference is in the brake wheel. The Shelter Island brake wheel is 7'8" in diameter and has 60 coggs. The brake wheel described in the list is 9' in diameter and has 80 coggs. Only the much larger Beebe Windmill has a brake wheel 9' in diameter.

It is possible that this list does not pertain to the Shelter Island Windmill. But it does demonstrate the planning which must have gone into building each mill.

STONE CRANE

The stone crane in the Shelter Island Windmill is undoubtedly the oldest still in place in a Long Island windmill. The components of this crane are the same as those of the other surviving cranes, but in the Shelter Island Mill the yoke and screw are of wood, not metal. The wooden screw, no longer in the mill, is seen in a photograph published in 1918.[15] Parts of an even older type of stone crane are found in the Hook Mill (see HAER Hook Mill Report). This crane used two wooden screws to raise a block of wood parallel to the spar from which hung two long iron dogs. The Shelter Island Windmill stone crane with its wooden yoke and wooden screw is a transitional step from the stone crane in the Hook Mill to the commonly-found crane with iron yoke and metal screw.

ROLLER BEARING

The roller bearing on which the cap of the Shelter Island windmill turns is made of wood, with iron trolley wheels set in. Wooden segments are spliced together to form the large circular bearing. All the roller bearings found in other mills are formed by two iron bands with wooden spacers in between.

GRAIN SYSTEM

The Shelter Island Windmill is one of three Long Island mills with no grain elevator or sack hoist to assist in moving the grain to the second or third floors. The other two mills are the Gardiner's Island Mill and the Windmill at Watermill. These mills are also the only ones with no screener to clean the grain before grinding.

The Shelter Island Mill does have a large bolter for flour, the reel is 15 feet long with a diameter of 2½ feet. A reel for a corn bolter is in the mill but there is no case for it. The jog scry in this mill is more intact than those found in the other mills. The jog scry has a vibrating screen which sifts out the corn meal and leaves the partly ground corn for a second grinding.

NOTES

(1) Account book "New Mill Book for 1812", manuscript, East Hampton Free Library. The date 1810 is inscribed in a beam at the second floor of the mill.

(2) Nathaniel Dominy V Account Book, 1798-1847, manuscript, Henry Francis du Pont Winterthur Museum.

(3) Bill and receipt, Nathaniel Dominy and Moses Cleveland, 15 December 1810, manuscript, East Hampton Free Library.

(4) Letter, Nathaniel Dominy to Moses Cleveland, 13 April 1810, manuscript, East Hampton Free Library.

(5) Account, Mill company to Moses Cleveland, 1821-1823, manuscript, East Hampton Free Library.

(6) Account Book, "New-Mill Book for 1812", manuscript, East Hampton Free Library.

(7) Dr. Clarence Ashton Wood, "The Shelter Island Windmill," Long Island Forum, February 1955, p. 27.

(8) "Shelter Island Windmill," Long Island Forum, December, 1957, p. 236.

(9) Land indenture, Frederick Clarke to Joseph Congdon, 1845, Deed Liber 49, p. 323, Suffolk County Clerk's Office.

(10) Dr. Clarence Ashton Wood, "The Shelter Island Windmill," Long Island Forum, February 1955, p. 27.

(11) "Shelter Island Windmill," Long Island Forum, December 1957, p. 236.

(12) United States Census Office, 8th Census, Census of Industry, Suffolk County, 1860.

(13) Rex Wailes, "Windmills of Eastern Long Island," Newcomen Society Transactions, 1934-1935.

(14) Dr. Clarence Ashton Wood, "The Shelter Island Windmill," Long Island Forum, February 1955, p. 27.

(15) Edward P. Buffet, "Some Long Island Windmills," American Machinist, 17 October 1918.

APPENDIX I

Letter from Nathaniel Dominy V to Moses Cleveland,
13 April 1810.

East Hampton April 13th 1810

Sir, I recieved yours of the 9th Inst. which informs me that if your timber will answer you have concluded to put two run of Stones in your Mill - I believe it will do well. 2nd If you frame girders across for your bridge beams to lie upon 8 feet and 4 Inches from top of stone beams to top of said girders, the lower storey will answer as agreed upon, but if you conclude to have the bridge beams lie on those girths which support the upper floor perhaps the lower storey had better be as much as 10 feet high - 3rd The top had better be enlarged as much as the bottom or the arms will come too near - 4th The stone beams may be 2 Feet & 10 Inches apart & the posts under them stand flush with the inside of the beams & 5 Feet between them the other way - 5th The post in center of Mill may be from 18 to 24 Inches and long enough to rise 4 Feet 8 Inches above the stone beams - 6th The plank rim to be in 6 pieces - 7 Cogg Wheel to be 8 feet diameter - & Spur Wheel 5 Feet 3 I. with 52 Coggs each 3½ by 1¾ and 12 Inches long - Cants of spur wheel 17 Inches wide & 4 thick - Faceing of D° 7 Inches wide and 3 thick - the width of arms 9 In. & 4½ thick - The Wallower 3 feet 10 Inches diameter of plank 2 Inches thick, each head to be double thickness and the plank to cross - 25 Rounds 14 Inches between shoulders and 3 Inches diameter - The rim that holds the coggs for turnin the top of Mill may be 5 Inches thick and 9 or 10 wide - Stocks 34 or 35 Feet long, 8 Inches thick and 10 deep at center and the ends proportioned so as to suit the points when hewed 8 Inches one end & 4½ the other and the thickness of the stock about 3½ or 4 Inches at end - Size of Burr Stones 4 Feet 4 Inches diameter - and the rock Stones 4 Feet 8 or 9 Inches diameter and the runner 17 or 18 Inches through the eye - NB. the Post in center may be crotched on one of the sleepers and a large stone placed under the end - yours &c

Mr. Moses Cleveland -

Nathl Dominy junr

APPENDIX II

Single sheet of paper, on back is written "Mill Papers"

Sills 4	4	sticks	20 Feet long	12 by 12 In
Short Dº	8	Dº	8 F. 3 In.	12 by 6
Posts	8	Dº	24 Dº	12 - 12
lower Interties	8	Dº	7 F. 4 In.	9½ - 5½
2 Storey Dº	8	Dº	6 F. 5 In.	9 - 5½
Crooked Dº	8	Dº	5 F. 9 In.	8 - 7

Lower story from foot of Posts to uper side of Interties 9 Feet 2 In.

Second story from uper side of lower to top of uper Dº 8 Feet

Third Dº from uper side of second to top of crookd Dº 6 Feet

Head of Posts to be left 7 Inches above the top of the Interties

2 Beams for top of Mill	12 feet long	9 Inches	by 9
1 Dº for Dº	15 Dº	9	by 10
1 for tail Beam	11 Dº	9	- 10
1 of white oak for head	10 Dº	12	- 14

Trundlehead spindle 12 Feet long 7 by 7 Inch

44 Coggs 5 I. long for (bolt?)
2 String peaces for uper flore to lay on
8 Croked
Say 8 for Scantling

APPENDIX II continued

	feet	In.	long	by	Square
2 Stone beams	[illegible]	[illegible]		12	15
4 Posts under Stone beams	9	6		5	10
Uper rim 7 I. across 6 up and down				6	7
Shaft	15	6		20	20
Cogg Wheel armes	9			4	9
Cogg wheel Cants				4	18
Ditto facing				5	9
2 String beams				10	9
80 Coggs	1	1	4 of them 18 long	1¼	3¼
96 Ditto		10		2½	3¼
12 rounds for trundlehead	1	7	Diameter		2¼
head of trundlehead	12			4	6
Stocks	32				